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SIMPLIFIED PRACTICES

by

Mr. R. M. Hudson, Division of Simplified Practice, Department of Commerce, before conference of Subject Matter Specialists, Tuesday, February 26, 1924.

Elimination of waste through simplified practices, an outgrowth of the European War, promises to revolutionize every branch of industry, and to work wonders in the standardization of farm equipment and operations. The term "Simplified Practice" has been adopted by the U. S. Department of Commerce to designate all forms of standardization which tend to simplify the manufacture, handling and use of supplies and equipment.

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Office of Horticultural Investigations
and Extension Service Cooperating,
U. S. Department of Agriculture,
Washington, D. C.

CONFERENCE OF SUBJECT MATTER SPECIALISTS.

February 26, 1924.

Subject: Simplified Practices, by Mr. R. M. Hudson, Division of Simplified Practice, Department of Commerce.

Mr. Chairman, Ladies and Gentlemen, perhaps there has been no topic of so much interest to farmers as a class during the past two years as the spread between the price he gets for his products and the price he has to pay for the goods that he buys. The farmers represent the greatest single class of consumers in the country. According to Prof. David Friday, who you all know is an authority on the subject, the farmers will spend during 1924, $9,000,000,000. That figure, I understand, he derives through certain calculations based on your own Department estimates of the value of crops and produce for 1923. Nine billion dollars represents just about eight or nine times what our railroads spend, and about eight times what we spend for good roads last year. It represents a tremendous purchasing power. When it comes to spending money the farmers are no different from the rest of us. What we are all interested in is getting the greatest value for every dollar that we spend. We want quality, full value, service, durability and general all-around satisfaction at the lowest price. We are interested in how much service we will get out of the article. We, in the Department of Commerce, think we have found a way to reduce this spread between the price the farmer pays for the things he buys and the price he gets for his products. The method we are following is called "simplified practice." Simplified practice means the reduction of variety in sizes and dimensions of every day commodities as a means of eliminating waste. It means the elimination of the superfluous and the unnecessary varieties; and the concentration of production and distribution on the varieties that have proven to be in greatest demand. Many men in the different industries - manufacturers, as well as wholesale and retail merchants, - agree that simplified practice will decrease stocks, - production costs, selling expenses, - and increase turnover, insure promptness of delivery, improve quality, and yield greater profits or savings to all concerned.

One of the earliest examples we have was brought about by your own Department in conjunction with the Standard Containers Act. The market basket was reduced from over twenty types and sizes to five standard sizes. The bushel basket has been similarly simplified. Five sizes can be made more economically by any manufacturer than can twenty. This means a great saving not only to the manufacturer but to the consumer as well. He does not have to go to the trouble of keeping different machines reserved for different types or sizes. He can set up his plant somewhat on the "Ford principle" with a special machine for each process of operation.

On the other hand, certain manufacturers have gone even further. One of the large implement companies not only eliminated a large number of the sizes of machines they were making, but also went further and applied

simplified practice to the details of construction. Seats were reduced from 12 to 1, and singletrees from about 20 different types to 1. This company formerly required a variety of 24 wrenches for adjustments on the machines they manufactured. They simplified and standardized the wrenches to four. As a result of the success of this particular application to farm implements,, all the implement manufacturers have developed interest in the possible reduction of the varieties of their products.

Last Tuesday - February 19, 1924 - there was a meeting held at the Department at which the implement manufacturers and dealers; your Mr. McCrory, who is also President of the American Society of Agricultural Engineers, and other interested people were present. They had developed some tentative suggestions as to what sizes and styles of plow, carriage, and machine bolts could be eliminated, and those which could be retained. After two days discussion they decided on a program which now means an elimination of about 40% of the bolts in use. It will mean probably a reduction of about 50% in the size and types of open-end wrenches. That should be a convenience to the farmers, as often when he has to adjust a bolt, he finds that the wrench handy is not the one that fits the particular bolt in question.

The automobile industry, which happens to be the industry I am most familiar with, - started out with the same general idea that each make and model of car would have to be of individual design, but the Society of Automotive Engineers has demonstrated the fallacy of that idea. The increasing number of automobiles means that simplification and standardization have been important factors in the success of the automotive industry.

When the Joint Commission of Agricultural Inquiry brought out its most interesting report on "Marketing and Distribution," it found in the retail hardware field, that the retailer was not making the money he was alleged to be making, and that he was up against an increased cost for his articles, and a very sharp increase in operating expenses. The National Retail Hardware Association, numbering some 21,000 members, started out investigating the turnover of the different articles in the hardware business. In the common garden variety of axe they found that these axes were made in 34 different types or models and from 1 to 4 grades, 1 to 35 brands, 1 to 11 finishes, and 5 to 19 sizes. Three manufacturers actually cataloged 6118 different "single-bit" axes. Under the common salesman philosophy that "you must give the buyer whatever he wants," you could choose from a possible maximum of 994,840 varieties. This is just one example in hardware. There are hundreds of others, and when you go into a hardware store you are inclined to believe that every hardware dealer stocks up with the entire number of varieties in each item in the hardware line.

Saws also show a great many varieties. For instance, in handsaws having one particular style of tooth, there are 13 sizes. Crosscut saws are made in 21 different sizes with varieties from 1 to 96. The actual varieties of saws made by one manufacturer were 291, and 294 by another. A rather conservative dealer made but 86. Usually not to exceed 20% of the total variety sells well and the remaining 80% drags along, the 20% carrying the burden of the "dead" or "slow" stock, - and

All the losses attached to it. You can see how this makes the price of a particular article go up. The variety in shotgun shells is perhaps a little greater. Some 2,000,000 different varieties are found there. There are manufacturers who undertake to furnish any of these varieties wanted by a particular hunter or sportsman. A certain manufacturer of sporting goods reduced varieties from 8,200 to 1,750 articles in his line. A certain manufacturer of wheelbarrows selected one type of the several that he was then making, - one that proved to be in the greatest demand. By making this one type, he was able to bring about a certain reduction in the cost of the product as well as in its selling price.

The manufacturers of files and rasps found they were making some 1,351 varieties, and they decided that 496, practically one-third of the varieties then being made, would serve all the uses.

In the dairy equipment field, there were 10 different types and styles of sanitary fittings used around dairy equipment, and with just enough difference in each one to prevent interchange. The International Milk Dealers Association has cooperated in reducing this to one standard type. Milk bottles have appeared in a tremendous variety. Judging from this variety, we conclude that each dairyman feels the quality of the milk and cream is enhanced by having the bottle of a particular shape or design representing his dairy. His name, of course, would not be sufficient. The glass manufacturers say it throws a great burden on them, because each bottle, where there is a slight variation of type, has to have a special mold. The cost of making these molds, as well as the number of them they have to have in the bottle making machine, soon runs up into money. The manufacturer may have several hundred thousand dollars worth of these molds on hand and not be sure of getting a repeat order. Some other manufacturer may sell for a little less, and the first fellow won't sell the molds to the second fellow. However, by cooperation with the members of your Department, and the Milk Dealers Association, the manufacturers have reduced the number of styles of milk bottles considerably.

One very gratifying simplification, I believe, has been the reduction of cap sizes from 29 to 1. They varied by 64s and 32s of an inch,- just enough to require a different size of cap for each size of bottle.

A good many people in buying goods, where the price is equal, will be influenced a good deal by size, as packages appear on the shelf. Everything else being equal, they take the larger size, not noticing how much space is taken up by the neck. The Glass Containers Association and some other interested groups are working on a program with our Division now with the idea of limiting some of these surplus varieties. There is a certain advantage of course in having a special type of container. I guess Heinz has brought that out, and some of the other manufacturers, but according to the Anderson Commission Report, there were some instances where we have paid more for the package than for the goods contained therein.

Of this matter of containers, hosiery was formerly packed in a large variety of boxes. A minor detail, of course, with respect to hoisery, but nevertheless the price paid by the consumer covers all incidental costs, such as packing, delivery, etc. The manufacturers decided that the cost was unwarranted, so in cooperation with the Bureau of Standards they have

cut the style to three, made in a limited number of sizes.

All this works "down-stream" to the consumer. Before I finish, I am going to ask the Extension Service to help us get the farmer more interested in working "up-stream." If their interest could be aroused in simplified practice, it would start a great force working up stream to the manufacturer. It would eventually give more purchasing power to the farmer's dollar.

In building materials, lumber is perhaps the greatest simplification that has been effected to date. In bringing that about, we in the Department of Commerce feel most grateful to two bureaus in your Department - the Forest Products Laboratory, and the Forest Service, - in the help they have rendered. The great variety in the thickness of boards was a great problem. This simplification in grades and sizes of boards is estimated not only by Secretary Hoover, but by prominent men in the lumber industry to save about $250,000,000 a year to the consumers.

We have found the hotel industry very interested in simplification and standardization. One item they are very much interested in is springs, mattresses, and blankets. Blankets recently were reduced from 78 to 12 sizes; beds to one standard length, and 4 standard widths for wooden beds; and two for metal. The average length of bed is somewhere between 5' 10½" to 5' 11". There are more than 40% of the people equal to, or above that dimension. The new standard dimension calls for 6' 2" minimum distance between head board and foot board.

Farmers are interested in getting more good roads, and the greatest number of miles per dollar spent. In these days when roads costs are much higher than ever before, - $35,000 to $60,000 a mile, - it is essential that the cost of road construction be held within reasonable bounds. These roads are being paid for out of bond issues, and these are eventually retired by taxes,- and the reduction of taxes is something everyone wants just now. Standardization of road building material will contribute to lower the cost of road building.

The paving brick manufacturers were formerly making some 66 varieties of bricks. In 1922, they agreed to 7 and last spring to 6. The asphalt manufacturers were interested in this same thing and reduced varieties of their products from 88 to 9.

The publications on Simplified Practice are issued in what we call our "Elimination of Waste" series. We call your attention to the one thing which we think makes our work successful. One of the hardest problems that we have to meet is the assumption that this is more Government interference with business. We have tried to overcome that prejudice by demonstrating to manufacturers, merchants and consumers that there is nothing of a restrictive nature in what we are doing. It is an outgrowth of the war. A good many of the manufacturers, who were working under the War Industries Board and were forced to simplify their products, found that it was an advantage to them. One of the manufacturers said, "Wish you fellows had thought about this years ago." We said "Why didn't you think of it yourself? Its your problem."

Secretary Hoover organized this Division to act as a coordinating unit to bring manufacturers, consumers, and dealers together. We take up the matter with all the different parties concerned. It means that in all specifications now being written for paving bricks the sizes, dimensions, etc. for the simplified types are now being included. From the sales point of view, the manufacturers feel that simplification and standardization helps them do more business.

The auto industry has done more than any other industry along this line. One of the advantages they have brought out is that of simplifying the design. We do know that cars are much lower in cost today than they have ever been in proportion to the qualities offered. It has been largely through standardization of dimension of the various features of car construction that has brought lower purchase price.

A survey in waste in industry was made by the Committee organized by Mr. Hoover. There is an average waste in industry of 50%. On our fabricated production of $60,000,000,000 per year, that means $30,000,000,000 worth of material, time, money, and energy lost each year. It is estimated that about $10,000,000,000 is traceable to lack of standardization. Saving some of that $10,000,000,000 is our chief object in life. It has a very definite relation to the cost of living. It touches each item of food, clothing, fuel and shelter. It may take some time to show that everyone is affected by it, but it is obvious that the farmer largely bears the load as he is our greatest consumer.

We will be very glad to have the cooperation of the Extension Service in arousing more interest in simplification as a means of reducing the cost of living. If consumers would be more content with certain types, or demand of the retailers that they carry less variety,- then the pressure of the consumer would re-act on the jobber, manufacturer, etc. In the meantime, we are continuing our efforts to interest manufacturers, and to get them to pass it on to their wholesalers and retailers. We are all consumers, and we should work, not only in our own interest to reduce our costs, but we also have a mutual obligation to do so. The present purchasing power of the American dollar based on the 1913 value of the dollar, is about 65 cents. If we would increase its value - we must eliminate the $30,000,000,000 spent for which there is no return. In other words, take the studies that were made in six principal industries, men's ready made clothing, building, metal trades, etc., it was found that the 50% average waste due to lost production, restricted production, interrupted production, and low production. All of these different kinds of waste are partially caused by lack of standardization of products, processes, materials, etc. This survey was made by the Hoover Committee of 18 of the leading industrial engineers of the country. They found this waste ranging from 28% in the metal trades, supposedly the most efficiently organized American industry, up to about 64% on men's ready made clothing. The average was 50%. With six of our major industries showing that average, we might reason that all of our industries perhaps would show about the same relative waste. Simplified Practice means eliminating waste by reducing variety. This saves materials, labor, time, and money. It helps cut down our living costs,- it increases the value of our dollars,- and as purchasing power grows, business is more stable and prosperity more permanent.